Getting Ready For ***Further Mathematics***		
Your Name		
A Level Further Maths	Introduction to A Level Further Maths	Edexcel

We are delighted you have chosen to study Further Mathematics at Haywards Heath College.

Instructions: This pack will help you make the best possible start to studying this subject.

The tasks in this pack:

- should take you **about 4 hours to complete.**
- should be handed into your teacher when teaching starts **from 11th September 2023** with your name on it for assessment.
- are also available on the internet – follow the links in the document.

If you need help: The tasks are designed to get a bit more difficult as you work through them as they are preparing you for studying at a higher level and to become an effective independent learner. You should try to get as far as you can working on your own but if you do need help, please email us at info@haywardsheath.ac.uk telling us which Getting Ready For pack you are working on and what help you need. Help is available throughout the summer holidays.

Skills Focus for this Getting Ready for Pack	
Researching Independent Learning Problem Solving	Introduction to complex numbers

Target Grade	Type of task	Task and subject specific skill reference	Deadline
All	Online course	Task 0.1 Using the A level maths transition course www.integralmaths.org (See A level maths GRFP) you should attempt the "Going Deeper" sections. You should choose 3 topics to go deeper into and tick off the sections you complete. You are unlikely to have time to do them all, so just choose a couple of topics.	**from 11ᵗʰ September 2023**
All	Research and questions	**Introduction to Complex Numbers** Further Maths includes work on complex numbers. Using the additional file named **'GRFP Further maths Task 0.2'** Read the notes very carefully and watch the videos below as necessary. Answer all the questions thoroughly. Using the answers provided, mark your work in a different colour and review anything you got wrong. Please bring your answers to your first Further Maths lesson. **Helpful videos from Khan Academy:** Intro to the imaginary numbers Simplifying roots of negative numbers Powers of the imaginary unit Intro to complex numbers Adding complex numbers Subtracting complex numbers Multiplying complex numbers Solving quadratic equations: complex roots Dividing Complex numbers	**from 11ᵗʰ September 2023**
Extension	Questions	**0.3 Complex Numbers Challenge** Using the additional file named **GRFP Further maths Task 0.3** You may have to do a bit more of your own research but have a go! Complete with full working and mark/annotate in a different colour. Bring to your first Further Maths lesson. **Hint:** z^* is called the **complex conjugate** of z. The real part is the same but the imaginary part has a change of sign. E.g. If $z = 3 + 4i$, then $z^* = 3 - 4i$, or if $z = -2 - 6i$ then $z^* = -2 + 6i$. When solving equations replace z with $x + iy$ and replace z^* with $x - iy$, then compare real and imaginary parts.	**from 11ᵗʰ September 2023**
Notes:			